Roll No. | | | | | | | | | | | | |

Total No. of Pages : 02

Total No. of Questions : 09

M.Sc.(IT) (2015 Onwards) (Sem.–1)

COMPUTER ORGANIZATION AND ASSEMBLY LANGUAGE

Subject Code : MSIT-103

Paper ID : [72519]

Time : 3 Hrs. Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTIONS-A, B, C & D contains TWO questions each carrying TEN marks each and students has to attempt any ONE question from each SECTION.**
2. **SECTION-E is COMPULSORY consisting of TEN questions carrying TWENTY marks in all.**
3. **Any missing data may be assumed appropriately.**

SECTION-A

1. Explain in detail the working of Control Unit of the computer with the help of a Block Diagram.

2. What is an Addressing Mode? Explain in detail the different Addressing Modes.

SECTION-B

3. What is Pipelining? Explain different types of Pipelining organizations in detail.

4. What is DMA? Explain with the block diagram the DMA transfer in a computer system.

SECTION-C

5. What is virtual memory? Explain the steps involved in virtual memory address translation.

6. Design a circuit to interface four RAMs of 128 × 8 size and a ROM of 512 × 8 size. Draw the memory map for the same.

SECTION-D

7. What are the different components of a Multiprocessor System? Explain the different Interconnection Structures for connecting these components.

8. Write a program in 8085 assembly language to add the values stored in an array. Assume that the array is in the memory having only four elements. Also assume that the values stored in the array are positive integer values. Result may be stored in register AX.

SECTION-E

9. Answer briefly :

a. What is Hardwired control organization?

b. What is Control Word?

c. List four characteristics of RISC architecture.

d. Name two types of memory interleaving.

e. What is strobe signal?

f. Differentiate synchronous and asynchronous bus.

g. What is Volatile memory?

h. What do you mean by Content Addressable Memory? Explain.

i. Differentiate between Seek time and Access time.

j. What is Interprocessor synchronization?